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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,153	03/01/2006	Mitsunori Matsuda	062102	1865

38834 7590 03/04/2009

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EXAMINER	
KING, RODNEY P	

ART UNIT	PAPER NUMBER
4117	

MAIL DATE	DELIVERY MODE
03/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/570,153	MATSUDA ET AL.	
	Examiner	Art Unit	
	RODNEY KING	4117	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03/01/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/01/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi (US 2003/0020342).

Referring to Claim 1: Takeuchi discloses an operating system for a construction machine comprising:

setting means (36) for setting a target value with respect to a frequency distribution of a prescribed state value relating to an operational condition of the construction machine [0002, 0122];

detecting means for detecting a prescribed state value [0010, 0013];

and control means (35) for calculating the frequency distribution of said prescribed state value detected by said detecting means, comparing said frequency distribution thus calculated with said target value set by said setting means (36), and outputting a previously prepared message in accordance with the comparison result [0010, 0013, 0122].

Referring to Claim 2: Takeuchi discloses the operating system for a construction machine according to claim 1, wherein a plurality of regions are set in a range of possible variation of said prescribed state value (Fig. 15, Fig. 23)[0071, 0117];

said setting means (36) sets said target value for each of said regions (Fig. 23)[0117];

and said control means (35) compares said frequency distribution with said target value, for each of said regions(Fig. 21)[0118, 0122], and outputs said message in accordance with the comparison result for each of said regions (Fig. 22, Fig. 23)[0117].

Referring to Claim 3: Takeuchi discloses the operating system for a construction machine according to claim 1, wherein said setting means (36) sets target values for a plurality of prescribed state values [0122];

said detecting means detects a plurality of prescribed state values [0119, 0122];

and said control means calculates a plurality of frequency distributions of said plurality of prescribed state values, compares said frequency distributions with said target values for said prescribed state values respectively, and outputs a previously prepared message in accordance with the combination of comparison results for said plurality of prescribed state values [0119-0122].

Referring to Claim 6: Takeuchi discloses the operating system for a construction machine according to claim 1, wherein said prescribed state value is a frequency of a work action [0053].

Referring to Claim 16: Takeuchi discloses an operational control method comprising the steps of:

setting a target value with respect to a frequency distribution of a prescribed state value relating to an operational condition of a construction machine [0002, 0122];

detecting a prescribed state value [0010, 0013];

calculating the frequency distribution of said detected prescribed state value, comparing said calculated frequency distribution with said set target value, and outputting a previously prepared message in

accordance with the comparison result [0010, 0013].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi (US 2003/0020342 A1), further in view of Eguchi (US 6,338,694 B1).

Referring to Claim 4: Takeuchi discloses all of the limitations of claim 1 mentioned in claim 4. Takeuchi does not disclose said prescribed state value is a hydraulic oil pressure. However, Eguchi discloses a hydraulic oil pressure of a hydraulic circuit having a pressure that is regulated via an onboard controller based on set of predetermined factors. Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Takeuchi to include the hydraulic oil pressure value as disclosed by Eguchi. One of ordinary skill in the art would have been motivated to do so in order to shut off an engine when a vehicle is at a standstill.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi (US 2003/0020342 A1), further in view of Amisano (US 2002/0016232 A1).

Referring to Claim 5: Takeuchi discloses all of the limitations of claim 1 mentioned in claim 5. Takeuchi does not disclose said prescribed state value is an engine speed. However, Amisano discloses measuring and regulating the value of the angular speed of an engine [0041]. Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Takeuchi to include the angular engine speed value as disclosed by Amisano. One of ordinary skill in the art would have been motivated to do so in order to monitor the engine during working and non-working states of a vehicle.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi (US 2003/0020342 A1), further in view of Ibaraki (US 5,722,911 A).

Referring to Claim 7: Takeuchi discloses all of the limitations of claim 1 mentioned in claim 7. Takeuchi does not disclose said prescribed state value is a fuel consumption amount or a fuel consumption rate. However, Ibaraki discloses a steady state engine output value that minimizes the fuel consumption rate (Col. 8, lines 63-67; Col. 9, line 1). Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Takeuchi to include the fuel consumption rate as disclosed by Ibaraki.

One of ordinary skill in the art would have been motivated to do so in order to monitor the fuel that passes through the engine, and to improve fuel efficiency.

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi (US 2003/0020342 A1), further in view of Furuta (US 2002/0150267 A1).

Referring to Claim 8: Takeuchi discloses all of the limitations of claim 1 mentioned in claim 8. Takeuchi does not disclose said message is displayed on a monitor screen (26) in an operator's cab (11), however, Furuta discloses a monitor in the operator cab [0041]. Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Takeuchi to include the monitor as disclosed by Furuta. One of ordinary skill in the art would have been motivated to do so in order to view orders/commands/messages/signals from an operator outside of the cab.

Referring to Claim 9: Takeuchi discloses all of the limitations of claim 1 mentioned in claim 9. Takeuchi does not disclose said message is issued by means of a voice announcement from a voice generator. However, Furuta discloses a voice attachment control apparatus comprising speech analysis means for speech analyzing a voice command [0014]. Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Takeuchi to include the voice apparatus as disclosed by

Furuta. One of ordinary skill in the art would have been motivated to do so in order to hear orders/commands/messages/signals from an operator in a working environment.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi (US 2003/0020342 A1), further in view of Toyooka (US 5,479,778 A).

Referring to Claim 10: Takeuchi discloses all of the limitations of claim 1 mentioned in claim 10. Takeuchi does not disclose the whole system is mounted in the construction machine, however, Toyooka discloses a hydraulic control system mounted on construction machines (Col. 1 lines 6-12). Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Takeuchi to include the mounted system as disclosed by Toyooka. One of ordinary skill in the art would have been motivated to do so in order for the operator to have direct control of the construction machine.

9. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi (US 2003/0020342 A1), further in view of Kinugawa (US 2003/0193406 A1).

Referring to Claim 11: Takeuchi discloses all of the limitations of claim 1 mentioned in claim 11. Takeuchi does not disclose further comprising: an component (40) located in the construction machine and another component (41) located outside the construction machine, wherein said message is sent from the component outside the construction machine to the component in the construction machine. However, Kinugawa discloses a construction machine comprising a read out means for transmitting and receiving data to/from a management center [0012-0014, 0039]. Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Takeuchi to include the components as disclosed by Kinugawa. One of ordinary skill in the art would have been motivated to do so in order for the operator to receive instructions from an outside source.

Referring to Claim 12: Takeuchi discloses all of the limitations of claim 1 mentioned in claim 12. Takeuchi does not disclose said message is displayed on a section located outside the construction machine. However, Kinugawa discloses a management apparatus comprising a display section for displaying operating information [0048](Fig. 1). Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Takeuchi to include the display as disclosed by Kinugawa. One of ordinary skill in the art would have been motivated to do so in order for management to view operating information from the construction machine.

10. Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsumi (US 5,155,996 A), further in view of Wax (US 5,745,159 A) and Kinugawa (US 2003/0193406 A1).

Referring to Claim 13: Tatsumi discloses an operating system for a construction machine comprising:

setting means (36) for setting a target value with respect to a frequency of the construction machine (Col. 11, lines 33-42);

and a detecting means for detecting a state
during a period that an engine of said construction machine is operated (Col. 8, lines 42-56; Col. 9, lines 52-68).

Tatsumi does not disclose a control means (35) for calculating a frequency of said workless state detected by said detecting means, comparing the frequency of said workless state thus calculated with said target value set by said setting means, and outputting a previously prepared message in accordance with the comparison

result. However, Wax discloses a microprocessor that measures the amplitude of a 90 MHz pilot tone, compares that value with a target amplitude stored in memory, and sends a signal through an output bus (Col. 17, lines 62-67; Col. 18, lines 1-10). Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Takeuchi to include the microprocessor as disclosed by Wax. One of ordinary skill in the art would have been motivated to do so in order to notify the system unit of any failures. Neither Tatsumi nor Wax discloses the construction machine operating at a workless state. However, Kinugawa discloses a hydraulic excavator with a lever lock limit switch that conducts current when a lever is activated. Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Tatsumi and Wax to include the lever as disclosed by Kinugawa. One of ordinary skill in the art would have been motivated to do so in order for the machine body not to operate, even if the operator comes in contact with the lever.

Referring to Claim 15: Tatsumi and Wax disclose all of the limitations of claim 13 mentioned in claim 15. Neither Tatsumi nor Wax disclose said workless state is a state where a lever lock function is engaged. However, Kinugawa discloses a hydraulic excavator with a lever lock limit switch that conducts current when a lever is activated. Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Tatsumi and Wax to include the lever as disclosed by Kinugawa. One of ordinary skill in the art would have been motivated to do so in order for the machine body not to operate, even if the operator comes in contact with the lever.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsumi (US 5,155,996 A), Wax (US 5,745,159 A), and Kinugawa (US 2003/0193406 A1), further in view of Matsuda (US 2005/0149244 A1).

Referring to Claim 14: Tatsumi, Wax, and Kinugawa disclose all of the limitations of claim 13 mentioned in claim 14. Neither Tatsumi nor Wax nor Kinugawa disclose said workless state is a state where an automatic deceleration function is engaged. However, Matsuda discloses a state where an automatic deceleration function is operated [0044]. Therefore, it would have been obvious to one of ordinary skill in the art to modify the disclosing of Tatsumi, Wax and Kinugawa to include the automatic deceleration function as disclosed by Kinugawa. One of ordinary skill in the art would have been motivated to do so in order to save energy by lowering the engine speed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RODNEY KING whose telephone number is (571)270-7823. The examiner can normally be reached on 7:30am - 5:00pm Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Naeem Haq can be reached on (571) 272-6758. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K./
Examiner, Art Unit 4117

/Charles A. Fox/
Primary Examiner, Art Unit 3652

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